REMARKS

Claims 1-4, 8, 10-12, 15, 16 and 20-21 will be pending in this application after the Examiner enters the foregoing amendment.

Claim 17 is cancelled herein.

Claim 18 was cancelled previously.

Claims 13-14 and 19 were previously withdrawn in response to a restriction requirement.

Before addressing specifics, Applicants and their undersigned attorney express their appreciation for the attention, and meaningful dialog during the interview of January 14, 2004. During the interview, Dr. Alving discussed the technical and scientific distinctions between his present invention and the problematic Asa teachings. In that discussion, the Examiners were made aware of the existence of publications adverse to the merits of Asa and the corresponding adverse technical findings from learned expert panels. The Examiner's requested that those publications be made of record by a Rule 132 Declaration by Dr. Alving.

The undersigned pointed out to the Examiners that in view of the problematic science of Asa et al, that patent was not an enabling reference that anticipated the claims of the present invention. Notably, Asa does not disclose antibodies capable of specific binding to squalene to the exclusion of related epitopes. Specifically, the undersigned directed the Examiner's attention to the admission by Asa at the top of Column 7 of that patent, confirming that Asa reports on non-specific binding (in the subjunctive) with oxidosqualene, farnesyl bromide, transgeranylactone and "other intermediates."

Furthermore, Asa does not describe, disclose or enable monoclonal antibodies or fragments thereof that are specific to squalene and/or exhibit strong dose dependant binding to squalene. During that discussion , Applicant was asked about the import of the "monoclonal" limitation in respect to claim 1. Applicant's undersigned representative responded that the then unamended claim 10, that specifically claimed monoclonal antibodies and fragments thereof specific to squalene was rejected on the same grounds as claim 1, being lumped together in Paragraph 1 of the Final Office Action. Consequently, it appeared from the Office Action that the "monoclonal" limitation was not given patentably significant weight over the invention defined in then pending claim 1.

Applicant's undersigned continued to emphasize that Asa did not provide an enabling teaching for detection methods, assays, or other identification procedures for antibodies specific to squalene regardless of the mono/poly clonal nature. The Examiners then indicated that modification of the claims to affirmatively recite the monoclonal basis of the invention, might well patentably distinguish from the prophetic unspecified antibody report contained in Asa. Thus, upon further reflection, it was suggested that the "monoclonal limitation be introduced into claim 1 which, in conjunction with the non-enablement arguments and proofs submitted in connection with Asa, would in all likelihood serve to define patentable subject matter. Applicant agreed to present claims including the monoclonal limitation with the caveat that such amendment would not prejudice Applicant to pursue non-monoclonal claims in a subsequent application.

The Examiners also suggested deletion of the phrase "with little or no cross reactivity" from claim 1 in view of the rejection under §112 and understanding that the expression was subsumed in the "specific binding" recitation in claim 1.

The remarks presented in response to the former office action are incorporated herein by reference.

Simply stated, while Asa et may generally contemplate the existence of a Squalene antibody, it does not provide specific teachings for a squalene detection method using antibodies of the specific character now recited in the claims. By having now limited the claims to specific monoclonal Squalene antibodies, the claimed invention herein provides a significant advance to the particulars of the art neither described nor enabled by Asa et al. In short, the present invention, as now claimed requires monoclonal Squalene antibodies capable of specific binding to Squalene and not Squalane. As before, but now even more so in view of the amendments herein, Applicants respectfully submit that the pending claims are not anticipated by the Asa et al patent. Thus, the rejections of the claimed inventions under 35 U.S.C. § 102 as being anticipated by Asa et al U.S. Patent No. 6,214,566, should be withdrawn.

Correspondingly, the rejections under 35 U.S.C. § 103(a), advanced by the Examiner, are equally unavailing. Those rejections are based on the non-enabled disclosure of Asa et al in view of either of U.S. Patent Nos. 6,191,108 to Rodkey et al and 6,166,050 to Lombardo et al. The Examiner relies on the teachings of the respective sera as blocking agents for reducing non-specific binding. Consistent with the forgoing, Asa et al does not describe, disclose, teach, or enable specific binding to the immobilized squalene to form a specific antibody complex with little or no cross-

reactivity as disclosed in the present specification at page 26 line 8. The use of the sera as blocking agents as taught in Rodkey et al and Lombardo et al with the Asa patent disclosure, does not meet the inventions now the subject of claims 5-7 and 9 which all affirmatively recite specific binding of monoclonal antibodies to squalene with minimal cross reactions. Accordingly, Applicants respectfully submit that there is no disclosure that would motivate modification of the Asa patent by either of the Rodkey et al or Lombardo et al patents to achieve the squalene specific binding method recited in claims 5-7 and 9 and that those claims are patentably distinct from the proposed combinations.

The claims affirmatively recite the ligand complex with monoclonal antibodies having specific binding characteristics. Not only does the Asa patent not teach the specific ligand complexes identified and claimed in the present invention, but the Asa patent specification only speculates about the existence of some undefined hybridized squalene antibody complex of problematic derivation (e.g., as discussed at the meeting hydrophilic squalene that can be diluted in water??).

The Examiner rejected claim 16 under 35 U.S.C. § 103(a) as being unpatentable over the Asa patent in view of U.S. Patent No. 5,709,879 to Barchfeld et al. The Barchfeld patent was relied on for teaching use of emulsion-liposome containing squalene to improve titers. As above, the non-enabled teaching of Asa even if combined with Barchfeld et al, does not provide the now claimed invention. Therefore, as above, the present claimed invention requiring that the "composition comprises liposomes containing squalene" patentably distinguishes from the teachings of Barchfeld et al. alone or combination with Asa et al.

Independent claim 20 has also been amended to affirmatively recite the presence of a monoclonal antibody in an assay for a squalene antibody induced by injection of squalene. Asa et al does not disclose, enable, or suggest an assay induced by injection of squalene, requiring the presence of a specifically binding, monoclonal squalene antibody. Consequently, Applicants respectfully submit that Asa et al is not anticipatory of claim 20 or claim 21, dependant therefrom.

In view of the foregoing, Applicants respectfully solicit favorable consideration of the application as now presented and passage thereof to issue. If in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned.

Respectfully submitted,

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By: _____

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